



*TSW*  
*AF*  
*2154*

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: David Carroll Cromwell

Examiner: Nguyen, Dustin

Serial No. 09/430,045

Art Unit: 2154

Filed: 10/29/1999

For: **METHODS AND SYSTEMS FOR PROVIDING ACCESS TO STORED AUDIO DATA OVER A NETWORK**

Mail Stop Appeal Brief – Patents

Commissioner for Patents

PO Box 1450

Alexandria, VA 22313-1450

Sir:

The present **APPEAL BRIEF** is filed in triplicate pursuant to 37 C.F.R. § 1.192.

Appellant also encloses a Credit Card Payment Form authorizing payment in the amount of \$500.00 as required by 37 C.F.R. § 1.17(c). If any additional fees are required in association with this appeal brief, the Director is hereby authorized to charge them to Deposit Account 50-1732, and consider this a petition therefor.

**APPEAL BRIEF**

**(1) REAL PARTY IN INTEREST**

The present application is owned by Nortel Networks Limited of 2351 Boulevard Alfred-Nobel, St. Laurent, Quebec Canada H4S 2A9, which is wholly owned by Nortel Networks Corporation, a Canadian corporation.

**(2) RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences to the best of Appellant's knowledge.

**(3) STATUS OF CLAIMS**

Claims 1-19, 36-45, and 52-69 were rejected with the rejection made final on November 30, 2004.

Claims 1-19, 36-45, and 52-69 are pending and the subject of this appeal.

**(4) STATUS OF AMENDMENTS**

All amendments have been entered to the best of Appellant's knowledge.

## **(5) SUMMARY OF THE INVENTION**

The present invention is designed to facilitate the propagation of network-related announcements to various locations in a telephone network, and more particularly to telephony users of an IP telephony network (204). Specifically, the present invention is designed to allow the standardization of network-related announcements in a central audio database in an audio server (208). To do this, various audio segments are assembled in the audio database. Each audio segment has a unique audio identifier (page 21, lines 10-15). Audio segments are assembled into sequences (page 21, lines 10-15) and played over the telephonic network to convey network-related announcements to telephone users or other recipients. For example, a sequence of discrete audio segments could be 1) "The time is", 2) "2:02 PM", and 3) "Thank you for using AT&T" (see similar example page 17, lines 3-17). Each element of this announcement is its own audio segment. Each sequence may have a sequence identifier (page 21, line 23).

A processor is used to locate these discrete audio segments in the database (page 19, line 24-page 20, line 5). The processor locates the audio segments by way of the audio identifiers. A request for a particular sequence will include each audio identifier corresponding to each audio segment needed for the audio sequence (page 22, lines 3-17 and Figure 5). Once the segments have been located, the segments will be played to the telephony network user (page 22, lines 19-20). The application has some very specific definitions for the terms "audio segment," "audio identifier," and the like. These definitions are found on page 4, line 12-page 5, line 2.

## **(6) ISSUES**

- a) Whether claims 1, 5-9, 12-19, 36, 39-45, 52, 55, and 57-69 are unpatentable over Abecassis in view of Anderson et al.
- b) Whether claims 2-4, 10, 11, 37, 38, 53, 54, and 56 are unpatentable over Abecassis in view of Anderson et al., and further in view of Kalmanek, Jr. et al.

## **(7) GROUPING OF CLAIMS**

- a) Claims 1, 5-9, 12-19, 36, 39-45, 52, 55, and 57-69 stand or fall together, but separately from the other group of claims.

b) Claims 2-4, 10, 11, 37, 38, 53, 54, and 56 stand or fall together, but separately from the other group of claims.

## **(8) ARGUMENT**

### **A. Introduction**

The Patent Office has created rejections for the claims that are based on a non-analogous reference. Even if the reference is analogous, the Patent Office has advanced an improper basis for combining the references to support its rejections. Still further, one of the references does not teach one of the claim elements for which it is cited, such that the combination does not establish *prima facie* obviousness. Before addressing the particulars of the deficiencies of the Patent Office's positions, Appellant sets forth summaries of the cited references and the standards relating to the issues raised by the rejections.

### **B. Summary of the References**

#### **1. U.S. Patent 6,408,128 to Abecassis**

U.S. Patent 6,408,128, hereinafter referred to as "Abecassis", is directed to the customized playing of video clips from a device such as a DVD or video on demand transmission. In particular, Abecassis contemplates that different individuals may desire different viewing experiences. For example, an adult may wish to watch the "unrated" version of an already violent film, but may also desire to have available a censored version that trims out certain objectionable images when the film is viewed by their child (see col. 2, lines 42-49 and col. 15, lines 42-47). Abecassis facilitates this by providing automated selective retrieval of non-sequentially stored, parallel, translational, and overlapping video segments that are assembled according to content preferences and presented to the viewer as a seamless, continuous video (see col. 2, lines 1-6). To effectuate the creation of this seamless, continuous video, Abecassis contemplates that the video has segments composed of a plurality of frames. The video segments have descriptors which identify the nature of the material within the segment (see col. 16, lines 19-24). When the individual plays the video, the individual designates what segments are played by limiting which descriptors are played. In this manner, graphic violence or sexual content may be dropped out of the video if those descriptors are excluded. The remaining segments of the video are presented seamlessly to the viewer. In the video on demand

embodiment, a network is provided over which the video may be played (see col. 5, line 64-col. 6, line 9).

**2. U.S. Patent 4,545,043 to Anderson et al.**

U.S. Patent 4,545,043 to Anderson et al., hereinafter “Anderson”, is directed to a telephonic network switch that plays network announcements to telephony users (see Abstract and col. 1, lines 6-15). The audio announcements are stored as short phrases on a disc. The phrases are assembled in real time to form a complete announcement. Anderson’s particular emphasis is related to the movement of the head unit that reads the disc and how to make this movement more efficient (see col. 2, lines 19-32).

**3. U.S. Patent 6,483,921 to Kalmanek Jr. et al.**

U.S. Patent 6,483,921 to Kalmanek Jr. et al., hereinafter “Kalmanek”, is directed to allocation of network resources between a calling party and a called party. The network resources are reserved based on a reservation request and committed when the called party accepts the call. The standard used to make the request and the acceptance is H.323. Kalmanek does disclose gate controllers 110, 111 participating in the call reservation and signaling process.

**C. The Standards for Establishing Obviousness**

**1. The Statute**

Section 103(a) of the Patent Act provides the statutory basis for an obviousness rejection and reads as follows:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**2. The Interpretation of 35 U.S.C. § 103(a)**

Courts have interpreted 35 U.S.C. § 103(a) as a question of law based on underlying facts. As the Federal Circuit stated:

Obviousness is ultimately a determination of law based on underlying determinations of fact. These underlying factual determinations include: (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the

differences between the claimed invention and the prior art; and (4) the extent of any proffered objective indicia of nonobviousness.

*Monarch Knitting Mach. Corp. v. Sulzer Morat GmBH*, 45 USPQ2d 1977, 1981 (Fed. Cir. 1998) (internal citations omitted). The critical inquiry in this case is the scope and content of the prior art. In this case, the references cited are not properly within the scope of the relevant prior art, and do not teach claim elements for which they are cited.

### **3. References Must be Analogous**

An initial test to determine if a reference is within the field of available prior art is to determine if the reference is analogous. The Federal Circuit has articulated the test to determine if a reference is analogous as follows:

In order to rely on a reference as a basis for a rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned.

*In re Oetiker*, 977 F.2d 1443, 1446 (Fed. Cir. 1992). Further,

[a] reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem.

*In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992). The Patent Office has expressed this rule at MPEP § 2141.01(a). Only if the reference passes this test may the reference be considered within the scope of the prior art. *Abecassis*, the primary reference cited by the Patent Office in its rejection of all the claims, is not within the same field of endeavor, nor does *Abecassis* commend itself to an inventor's attention when an inventor is confronted with the problem solved by the present invention.

### **4. There Must be a Factually Supported Motivation to Combine the References**

It is well recognized that almost every invention is a combination of elements from the prior art. *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991). What makes an invention patentable is that it would not have been obvious to one of ordinary skill in the art to combine the references in the manner claimed. The Federal Circuit has cautioned that the references may not be gathered with the claimed invention in mind. *Pentec, Inc. v. Allen*, 776

F.2d 309, 313 (Fed. Cir. 1985). To help avoid the insidious call of hindsight reconstruction, the Federal Circuit has mandated that when the Patent Office proposes combining or modifying references, the Patent Office must articulate some reason why the combination or modification is desirable. Furthermore, this reason must be supported by actual evidence. *In re Dembiczak*, 175 F.3d 994, 999 (Fed.Cir. 1999); *see also In re Lee*, 277 F.3d 1338, 1343-44 (Fed. Cir. 2002).

“That knowledge may have been within the province of the ordinary artisan does not in and of itself make it so, absent clear and convincing evidence of such knowledge.” *Smiths Industries Medical Systems, Inc. v. Vital Signs, Inc.*, 183 F.3d 1347 (Fed. Cir. 1999). The Federal Circuit acknowledges that the range of sources from which the motivation may come is broad, but emphasized that the range of sources available does not diminish the requirement for actual evidence. *In re Dembiczak* at 999. The Patent Office has not advanced proper motivations to combine the various references.

#### **5. Each Element of the Claim Must be Taught or Suggested by the Combination**

Once the references are properly combined, the combination must teach or suggest every element recited in the claims to establish *prima facie* obviousness. *In re Royka*, 490 F.2d 981 (C.C.P.A. 1974); MPEP § 2143.03. An element may be suggested explicitly or implicitly. *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999). The Patent Office must provide particular findings with regard to a suggested showing. Broad conclusory statements standing alone are not sufficient. *Id.* “If the PTO fails to meet this burden, then the Appellant is entitled to the patent.” *In re Glaug*, 283 F.3d 1335, 1338 (Fed. Cir. 2002). The Patent Office’s interpretation of “audio identifier” is unreasonably broad and the audio identifiers of the invention are not shown by the combination.

#### **D. Abecassis is Non-Analogous Art**

Appellant’s invention is directed to improving the provision of network announcements to telephony users. Abecassis’s replaying of video from a DVD is not in the same field of endeavor as Appellant’s invention because playing video from a DVD was not done in the telephony context at the time of Appellant’s invention. Likewise, Abecassis’s concept of playing video on demand over a network is not in the same field of endeavor because video was, and remains, conceptually distinct from network announcements in a telephony network. As noted by the Federal Circuit, patents are within the same field of endeavor if they have essentially the

same function and structure. *In re Deminski*, 796 F.2d 436, 442 (Fed. Cir. 1986). The Federal Circuit has likewise noted that even a reference in the same industry as the inventor is not necessarily within the inventor's field of endeavor. *In re Clay*. Here, the references are not in the same industry and do not perform the same function or have the same structure. To this extent, Abecassis fails the first prong of the analogous test because Abecassis is not in the same field of endeavor as Appellant.

Abecassis is not reasonably pertinent to Appellant's endeavor. As noted above, a reference is reasonably pertinent to the endeavor if it logically commends itself to an inventor's attention in considering his problem. "Thus, the purposes of both the invention and the prior art are important in determining whether the reference is reasonably pertinent to the problem the invention attempts to solve. . . If it is directed to a different purpose, the inventor would accordingly have had less motivation or occasion to consider it." *In re Clay* at 659. Appellant's purpose is to provide network announcements to users of a telephony network. In contrast, Abecassis's purpose is to play video to viewers. While the video may be delivered over a network, it is contra-intuitive to assert that these purposes are the same or related to one another. Since the reference is clearly for a different purpose, and there is no other factor which would commend Abecassis to the inventor facing Appellant's problem, Abecassis fails this prong of the analogous test as well.

The Patent Office, in the Office Action of November 30, 2004, opines that Abecassis is in the same field of endeavor because Abecassis discloses a network architecture that enables the transmission of digital, studio-quality video through telecommunications networks. While Abecassis does disclose a network, this network does not perform the same function or have the same structure as Appellant's invention. That is, the Patent Office's articulation of the function of Abecassis (i.e., to transmit digital, studio-quality video) effectively demonstrates that Abecassis does not send network announcements to telephony network users. Instead, the function of Abecassis is to send video. Since Abecassis does not perform the same function as Appellant's invention, Abecassis still fails the first prong of the analogous test.

The Patent Office also argues, in the Office Action of November 30, 2004, that Abecassis is reasonably pertinent to Appellant's endeavor because "Abecassis discloses a [sic] distributing network announcements from a central location [i.e., service providers, central video services

providers] [col 12, lines 49-col 13, lines 13].”<sup>1</sup> Appellant initially notes that this assertion is at odds with the Patent Office’s admission that “Abecassis does not specifically disclose the sequence of audio segments comprising at least portions of network-related announcements to be played to a recipient. . . .”<sup>2</sup> Appellant sets forth the full text of Abecassis col. 12, line 49-col. 13, line 13 in the margins.<sup>3</sup> Nowhere in this passage is there any teaching or suggestion that there are network announcements. While the passage does indicate that the video is maintained in a central storage facility, there are no network announcements. Likewise, the purpose of this central storage facility remains to deliver video to a viewer, not to provide network announcements to telephony network users. Because the Patent Office has not shown how Abecassis is directed to the same purpose as Appellant’s invention, the Patent Office has not shown how Abecassis is reasonably pertinent to Appellant’s endeavor.

Since Abecassis fails both prongs of the analogous test, Abecassis is not analogous art, and is not within the scope of prior art that may be considered in formulating a rejection under 35 U.S.C. § 103. Since all the rejections rely on Abecassis, and Abecassis is not within the scope of available prior art, all the rejections are improper. On this issue all the pending claims stand or fall together. Since the rejections are improper, the Patent Office has not carried its burden in establishing obviousness, and all the pending claims are allowable. Appellant requests that the

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<sup>1</sup> Office Action of November 30, 2004, page 2, lines 14-16.

<sup>2</sup> Office Action of November 30, 2004, page 4, lines 15-17.

<sup>3</sup> Abecassis, col. 12, line 49-col. 13, line 13 states in full:

Video providers may be further categorized according to the functions served and/or the extent and character of the videobase maintained. Central video services providers 411 may be capable of providing a greater variety of video services than for example regional or local services providers 413. Regional or local services providers 413, however may be the source of local interest video services such as are currently broadcast by local television stations. Other video services providers 412 may act as "libraries" for specialized categories of videos, as for example an historical video archive of government proceedings; or services as for example electronics shopping. The internet architecture and the different classes of web sites is suggestive of the wide range of multimedia configurations that are possible.

A viewer's access to the resources of a video services provider 411-413 need not be direct. A requested video may be downloaded, in real time or non-realtime, to a services provider that may be more economically accessible to the intended viewer. Within the network, some video services provider may not directly provide any services to viewers, but act as centralized video originators or depositories for other services providers.

The video server's mass storage random access memory devices 423 for storing a plurality of variable content videos may advantageously implement the teachings herein with respect to the multiple read/write head architecture. This would also facilitate the simultaneous retrieval of several versions of a video from a single video source to satisfy simultaneously the particular viewing requirements of several end users. A multiple read head architecture reduces, for example, the number of copies of a video that the on-line video server may need to store.



Board reverse the Examiner's finding that Abecassis is analogous art, and instruct the Examiner to allow all the pending claims.

**E. Abecassis is Not Properly Combined With Anderson**

As noted above, when the Patent Office proposes a combination of references, the Patent Office must first articulate a motivation to combine the references, and second, must support the articulated motivation with actual evidence. *In re Dembiczak*. Appellant has previously argued that the articulated motivation to combine Abecassis and Anderson was non-compelling. In particular, the Patent Office asserts that the motivation to combine Abecassis and Anderson is to "allow announcement information to be transmitted to customers in real-time [Anderson, col 1, lines 13-16]." <sup>4</sup>

Appellant argued that this motivation is not compelling. Abecassis has no network related announcements, and thus, does not need to have announcements sent to customers in real time. Therefore, such functionality is not logically combined into Abecassis. Likewise, Anderson inherently allows the announcements to be sent to the customers in real time, and would not need to be combined with Abecassis's DVD player to satisfy the articulated motivation. In short, the motivation does not compel the combination, and the combination is improper.

The Patent Office responded to this argument by asserting that "the announcement of Anderson would add to the system of Abecassis the capability for efficiently previewing automated [sic] the selected segments from the video [Abecassis, col 2, lines 42-48]." <sup>5</sup> If this is the new motivation for combining Abecassis and Anderson, it too is non-compelling because Abecassis already has a mechanism in place to provide for the efficient previewing of selected segments, as illustrated in Abecassis, Figure 10 and col. 38, line 51-col. 39, line 43. As such, there is no need to combine Anderson into Abecassis to effectuate efficient previewing of selected segments. Even if Anderson was combined with Abecassis to improve the efficiency of the previewing function, there is no indication that Anderson's network announcements are the mechanism through which the efficiency would be improved. To this extent, the Patent Office still has not articulated a motivation that compels the combination of Abecassis and Anderson. Since the Patent Office has not articulated a motivation that compels the combination of

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<sup>4</sup> Office Action of November 30, 2004, page 5, lines 7-8.

<sup>5</sup> Office Action of November 30, 2004, page 3, lines 7-9.

Abecassis and Anderson, the combination is improper. Since this combination forms part of all the rejections, and this combination is improper, the rejections of all the claims are improper. Since the rejections of all the claims are improper, all the pending claims are allowable. On this issue, all the claims stand or fall together. Appellant requests that the Board reverse the Examiner's finding that the combination is proper, and instruct the Examiner to allow all the claims.

**F. Abecassis Does Not Teach an Audio Identifier**

Assuming, *arguendo*, that Abecassis is analogous and is properly combinable with Anderson, the combination does not teach the recited audio identifier of the independent claims. Appellant defines "audio identifier" on page 4, lines 14-15 of the specification by stating an "an audio identifier is a number or code uniquely associated with an audio segment." Appellant defines an "audio segment" on page 4, line 13 to be an "atomic unit of audio data." Since Appellant has defined these terms in the specification, these definitions are controlling. MPEP § 2111.01. Thus, to meet Appellant's definition, the reference must teach or suggest a number or code that uniquely identifies an atomic unit of audio data.

Each of the independent claims recites an audio identifier (or some close approximation thereof). The Patent Office asserts that this element is taught by Abecassis's video identifier (Abecassis, col. 28, lines 15-21) or the content codes (Abecassis, col. 16, lines 13-36). Neither of these reference elements is an audio identifier as that term is defined by Appellant's specification at page 4, lines 4-15. The video identifier, by definition, is not an audio identifier because it identifies a video segment, not an "atomic unit of audio data". While the video segment may have audio associated therewith, the video identifier does not uniquely identify an "automatic unit of audio data". Likewise, the content codes are described as being duplicative codes to help identify potentially objectionable material. For example, Abecassis col. 15, lines 42-57 and col. 16, lines 51-58 describe that some segments can be rated PG, R, or NC-17. Thus, the violent or sexual explicit parts of a video may get a content code of R or NC-17. When the censored version of the video is played, the segments with R or NC-17 content codes are excised. It is readily apparent that the content codes are reused and do not uniquely identify the segments of the video or, more particularly, identify the audio segments. As noted in the definition of "audio identifier" on page four of Appellant's specification, an audio identifier uniquely identifies the audio segment. Since the content codes do not uniquely identify the audio

segments, the content codes do not teach or suggest Appellant's audio identifiers. In short, Abecassis does not teach or suggest audio identifiers.

Further, Anderson does not teach or suggest audio identifiers. To date, the Patent Office has not articulated any portion of Anderson that teaches Appellant's audio identifiers. Since neither Abecassis nor Anderson teach or suggest Appellant's audio identifiers, the combination of Abecassis and Anderson does not teach or suggest Appellant's audio identifiers. Since the combination does not teach or suggest Appellant's audio identifiers, the combination does not establish *prima facie* obviousness. Since the Patent Office has not established obviousness, the claims are allowable. As this element is present in each of the claims, on this issue, all the pending claims stand or fall together. Appellant requests that the Board reverse the Examiner, and instruct the Examiner to allow the claims on this issue.

**G. Kalmenek is Not Properly Combinable With Abecassis and Anderson**

The Patent Office rejects only claims 2-4, 10, 11, 37, 38, 53, 54, and 56 on the combination of Abecassis, Anderson, and Kalmanek. As such, on this issue, these claims stand or fall separately from the other claims. As noted above, to combine references in an obviousness determination, the Patent Office must not only articulate a motivation to combine the references, but also the Patent Office must support the articulated motivation with actual evidence. *In re Dembiczak*. The Patent Office asserts that the motivation to combine Kalmanek with Abecassis and Anderson is to "provide devices to communicate in a more efficient manner."<sup>6</sup> This asserted motivation lacks any evidence in support thereof. As such, this motivation is improper.

Rather than provide evidence to support the articulated motivation, the Patent Office relies on somewhat older case law, stating:

the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347 (Fed. Cir. 1992).<sup>7</sup>

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<sup>6</sup> Office Action of November 30, 2004, page 10, line 2.

<sup>7</sup> Office Action of November 30, 2004, page 3, lines 1-6.

This statement was correct at the time the Federal Circuit made these pronouncements. However, more recent decisions from the Federal Circuit such as *In re Dembiczak* (1999) and *In re Lee* (2002) have refined the standard further. In particular, the court in *Dembiczak* acknowledged that *Fine* indicated a wide variety of sources may be used to find the motivation to combine references. However, despite the explicit acknowledgement, the court stated the “range of sources available, however, does not diminish the requirement for actual evidence.” *In re Dembiczak* at 999. This statement from the Federal Circuit is very clear and not subject to alternative interpretations. Quite simply, there must be actual evidence to support the motivation to combine the references. Since the Patent Office has not provided any evidence in support of the articulated motivation to combine Kalmanek, the motivation is improper. Since the motivation is improper, the combination is improper. Since the combination is improper, the Patent Office has not established obviousness. Since the Patent Office has not established obviousness, the claims subject to a rejection under a Kalmanek combination are allowable. Appellant requests that the Board reverse the Examiner, and instruct the Examiner to allow claims 2-4, 10, 11, 37, 38, 53, 54, and 56 on this basis.

#### **H. Conclusion**

The Patent Office’s rejections rely on a reference that is not within the scope of available prior art by virtue of Abecassis being non-analogous. Even if Abecassis is analogous, the motivation to combine Abecassis with Anderson does not compel the combination of the two references. Even if the combination is proper, the combination does not establish obviousness since Abecassis does not teach or suggest an audio identifier as that term is defined by Appellant’s specification. All the claims are allowable for any of these reasons. Additionally, claims 2-4, 10, 11, 37, 38, 53, 54, and 56 are allowable because the motivation to combine Kalmanek with Abecassis and Anderson is not properly supported. Thus, claims 2-4, 10, 11, 37, 38, 53, 54, and 56 are independently allowable for this additional reason.

Appellant requests that the Board reverse the Examiner and instruct the Examiner to allow the claims for these reasons.

Respectfully submitted,  
WITHROW & TERRANOVA, P.L.L.C.

By:

Benjamin S. Withrow  
Registration No. 40,876  
P.O. Box 1287  
Cary, NC 27512  
Telephone: (919) 654-4520

Date: April 21, 2005  
Attorney Docket: 7000-045

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## **(9) APPENDIX**

1. A sequence processor for providing access to a sequence of audio segments accessible by an audio server, the sequence processor comprising computer-executable instructions embodied in a computer-readable medium for performing the steps comprising:

(a) receiving a request for playing the sequence of audio segments, wherein the sequence of audio segments comprises at least portions of network-related announcements to be played to a recipient, the sequence being identified by an audio identifier;

(b) locating, in an audio server database, the sequence of audio segments based on the audio identifier; and

(c) playing the sequence of audio segments to the recipient so that the recipient is apprised of at least one network-related announcement.

2. The sequence processor of claim 1 wherein receiving a request includes receiving a request from a media gateway control protocol (MGCP) call agent.

3. The sequence processor of claim 2 wherein receiving a request includes receiving an MGCP NotifyRequest command from the call agent.

4. The sequence processor of claim 1 wherein playing the sequence includes transmitting audio data packets to a gateway over a packet-based network, and wherein the gateway plays the sequence.

5. The sequence processor of claim 1 wherein receiving a request for playing the sequence of audio segments includes receiving a request for playing the sequence of audio segments wherein at least one of the audio segments is a variable.

6. The sequence processor of claim 5 wherein playing the sequence of audio segments includes resolving the variable into an audio segment.

7. A set processor for providing access to elements of a set of stored audio data, the set processor comprising computer-executable instructions embodied in a computer-readable medium for performing steps, comprising:

(a) receiving a request generated by a network component, said request comprising a request to play an audio segment to a recipient, the audio segment relating to a network-related announcement, the request including an audio identifier for identifying a set containing the audio segment and a selector for specifying a member of the set corresponding to the audio segment; and

(b) selecting the audio segment to be played based on the audio identifier and the selector.

8. The set processor of claim 7 wherein the set contains a plurality of levels of audio data qualifiers and the selector specifies a path through the levels that leads to the member corresponding to the audio segment to be played.

9. The set processor of claim 7 wherein the set contains a plurality of levels of audio data qualifiers and the selector specifies a partial path through the levels and selecting the audio segment to be played includes traversing the levels in an order specified by the selector and supplying default paths through levels not specified by the selector.

10. The set processor of claim 7 wherein receiving a request to play an audio segment includes receiving a request from a media gateway control protocol (MGCP) call agent.

11. The set processor of claim 10 wherein receiving a request to play an audio segment includes receiving an MGCP NotifyRequest command from the MGCP call agent.

12. A variable processor for providing access to stored audio data segments corresponding to variables, the variable processor comprising computer-executable instructions embodied in a computer-readable medium for performing steps, comprising:

(a) receiving a request to play a sequence of audio data segments, the sequence adapted to convey a network-related announcement to a recipient, the request including a variable; and

(b) determining whether the variable is an embedded variable;

(c) in response to determining that the variable is an embedded variable, resolving a sequence of audio data segments containing the variable and resolving the variable; and

(d) playing the sequence including the variable.

13. The variable processor of claim 12 comprising, in response to determining that the variable is not an embedded variable, resolving the variable into at least one audio data segment based on at least one of type, subtype, and value of the variable.

14. The variable processor of claim 13 wherein the variable is a multilanguage variable and wherein resolving the variable includes selecting audio data segments to be played based on a language specified by the variable.

15. The variable processor of claim 12 wherein the variable is a multilanguage variable and wherein resolving the variable includes selecting audio data segments to be played based on a language specified by the variable.

16. The variable processor of claim 12 wherein receiving a request to play the sequence includes receiving a request including a variable and a selector and resolving the variable includes identifying a set containing an audio data segment to be played.



17. The variable processor of claim 16 further comprising identifying the audio data segment to be played based on the selector.

18. The variable processor of claim 13 wherein receiving a request to play the sequence includes receiving a request including a variable and a selector, wherein resolving the variable includes identifying a set containing an audio data segment to be played.

19. The variable processor of claim 18 comprising identifying the audio data segment to be played based on the selector.

36. A sequence processor for providing access to a sequence of audio segments accessible by an audio server, the sequence processor comprising:

(a) means for receiving a request for playing the sequence of stored audio segments, wherein the audio segments comprise at least portions of network-related announcements to be played to a recipient, the sequence being identified by an audio identifier;

(b) means for locating, in an audio server database, a provisioned sequence of audio segments based on the audio identifier; and

(c) means for playing the sequence of audio segments to the recipient so that the recipient is apprised of at least one network-related announcement.

37. The sequence processor of claim 36 wherein the means for receiving a request comprises means for receiving a request from a media gateway control protocol (MGCP) call agent.

38. The sequence processor of claim 36 wherein the means for playing the sequence includes means for transmitting the audio segments to a gateway over a packet-based network, and wherein the gateway plays the sequence.

39. The sequence processor of claim 36 wherein the means for receiving a request includes means for receiving a sequence including at least one variable and wherein the means for playing the sequence of audio segments includes means for resolving the variable into an audio data segment.

40. A set processor for providing access to elements of a set of stored audio data, the set processor comprising:

(a) means for receiving a request generated by a network component, requesting to play an audio segment to a recipient, the audio segment comprising at least a portion of a network-related announcement to be played to a recipient, the request including an audio identifier for identifying a set containing the audio segment and a selector for specifying a member of the set corresponding to the audio segment; and

(b) means for selecting the audio segment to be played based on the audio identifier and the selector.

41. The set processor of claim 40 wherein the set contains a plurality of levels of audio data qualifiers and the selector specifies a path through the levels that leads to the member corresponding to the audio segment to be played, wherein the means for selecting the audio segment to be played to the recipient includes means for traversing the set based on the path specified by the selector.

42. The set processor of claim 40 wherein the set contains a plurality of levels of audio data qualifiers and the selector specifies a partial path through the levels and the means for selecting the audio data segment to be played includes means for traversing the levels in the order specified by the selector and supplying default paths through the levels not specified by the selector.

43. A variable processor for providing access to stored audio data segments corresponding to variables, the variable processor comprising:

(a) means for receiving a request to play a sequence of audio segments, the sequence adapted to convey a network-related announcement to a recipient, the request including a multilanguage variable specifying a language in which the audio sequence is to be played;

(b) means for resolving the multilanguage variable into at least one audio segment based on the language specified in the request; and

(c) means for playing the audio segment.

44. The variable processor of claim 43 wherein the means for resolving the multilanguage variable includes means for selecting audio segments having inflections in accordance with the language specified in the request.

45. The variable processor of claim 43 comprising means for qualifying the multilanguage variable after resolving the multilanguage variable using a selector.

52. A method for accessing stored audio data comprising:

(a) transmitting a request to an audio server for playing stored audio data, the request including an audio identifier identifying a sequence of audio segments to be played;

(b) locating, in an audio server database, a sequence of provisioned audio segments corresponding to the audio identifier; and

(c) playing the sequence of audio segments to a recipient to convey a network-related announcement.

53. The method of claim 52 wherein transmitting a request to an audio server includes transmitting a request from a media gateway control protocol (MGCP) call agent to an audio server.

54. The method of claim 52 wherein playing the sequence of audio segments to the user includes sending the sequence of audio segments to the recipient over a packet-based network.

55. A method for accessing stored audio data comprising:

(a) transmitting a request to an audio server to play an audio segment, the audio segment including at least a portion of a network-related announcement to be played to a recipient, the request including an audio identifier for identifying a set containing the audio segment and a selector for specifying a member of the set corresponding to the audio segment; and

(b) selecting the audio segment to be played based on the audio identifier and the selector.

56. The method of claim 55 wherein transmitting a request to an audio server comprises transmitting a request from a media gateway control protocol (MGCP) call agent to the audio server.

57. The method of claim 55 wherein the set contains a plurality of levels of audio data qualifiers and the selector specifies a path through the levels that leads to the member corresponding to the audio segment to be played.

58. The method of claim 55 wherein the set contains a plurality of levels of audio data qualifiers and the selector specifies a partial path through the levels and selecting the audio data segment to be played includes traversing the levels in the order specified by the selector and supplying default paths through levels not specified by the selector.

59. A computer-readable medium having stored thereon a set data structure, the set data structure comprising:

(a) a first data field containing an audio identifier representing a set containing a plurality of members representing audio segments comprising at least portions of network-related announcements to be played to a recipient; and

(b) a second data field containing a selector for selecting one of the members in the set.

60. An audio server comprising:

(a) an interface card for receiving a request for playing a sequence of stored audio data segments, the audio data segments comprising at least portions of network-related announcements to be played to a recipient, the sequence being identified by an audio identifier;

(b) an audio server database embodied in a memory device storing provisioned sequences of audio data segments; and

(c) a processor programmed to extract a sequence of audio segments from the audio server database using the audio identifier in the request.

61. The audio server of claim 60, comprising at least one digital signal processing (DSP) card for converting the sequence of audio data segments extracted from the audio server database into a format for playing to the recipient.

62. The audio server of claim 60, wherein the audio server database includes sets having members representing audio data segments, and each of the members being selectable by a selector, and wherein the processor is programmed to locate a set in the audio server database based on an audio identifier received in a request and to locate a member in the set based on the selector received in a request.

63. A processor for providing access to audio data segments accessible by an audio server, the processor comprising computer-executable instructions embodied in a computer-readable medium for performing steps comprising:

(a) receiving a request for playing audio data segments, the audio data segments comprising at least a portion of a network-related announcement to be played to a recipient, the request including at least one parameter for identifying the audio data segments;

(b) locating, in an audio server database, the audio data segments based on the parameter;  
and

(c) playing the audio segments.

64. The processor of claim 63, wherein the parameter is an audio identifier for identifying a sequence of audio data segments, and wherein locating the audio data segments includes locating the sequence of audio data segments based on the audio identifier.

65. The processor of claim 63, wherein receiving a request for playing audio data segments includes receiving a request including an audio identifier for identifying a set of audio data segments and a selector for selecting members of the set, and wherein locating the audio segments in the audio server database includes locating the segments based on the audio identifier and the selector.

66. The processor of claim 63, wherein the parameter is a variable, and wherein locating the audio data segments in the audio server database includes resolving the variable into an audio data segment.

67. An audio server package comprising:

(a) an event symbol recognizable by an audio server for instructing the audio server to detect or perform an action, the event symbol including a play announcement parameter for instructing the audio server to play a network-related announcement;

(b) a first parameter associated with the event symbol for defining how the audio server detects or performs the action, the first parameter including an announcement parameter for indicating the network-related announcement to be played; and

(c) an audio identifier associated with the announcement parameter for uniquely identifying an audio segment including the network-related announcement to be played.

68. The audio server package of claim 67 comprising a variable parameter associated with the play announcement parameter for instructing the audio server to resolve a variable into an audio identifier and play the announcement specified by the audio identifier.

69. The audio server package of claim 67 comprising a set parameter and a selector parameter associated with the play announcement parameter for instructing the audio server to access a set of stored audio segments and locate the audio segment containing the announcement to be played based on the selector.